

The Abnormal Pap Smear

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Objectives

- Review the epidemiology of cervical cancer
- Review risk factors for cervical cancer
- Review current screening recommendations
- Discuss the reporting of pap smear results using the Bethesda System
- Determine the appropriate management of abnormal pap smear results

Introduction

- The Papanicolaou (Pap) smear has been in use since 1941
- It is the single most effective cancer screening test to date
- Sensitivity is 30-89%

Epidemiology

- 3.5 million women have abnormal pap results in the US annually (about 7% of total paps performed)
- 4.4% of pap results are ASCUS
- In the US, 13,000 new cases of invasive cervical cancer per year
- 50% of women in the US with cervical cancer have never been screened
- 5-year survival rate for local disease is 92%
- 5-year survival for distant metastasis is 13%

Risk Factors for Cervical Cancer

- Early age at first intercourse (age <16)
- Multiple sexual partners
- Presence of STD, particularly HPV
- Immunosuppression
- SMOKING!!!
- In utero DES exposure

The Human Papillomavirus (HPV)

- HPV is the leading etiologic agent in development of dysplasia
- HPV DNA is found in 95-100% of invasive cervical cancer (ICC) and 75-95% of high grade lesions (CIN II or III)
- Peak prevalence is 40% occurring between the ages of 20 and 29

(HPV – continued)

- High risk types –
16,18,31,33,35,39,45,51,52,56,58,59,68,73,82
- Types 16 and 18 most prevalent in ICC
- Persistence of HPV infection is a key factor in progression to cancer

Screening - When to Begin?

- ACOG, American Cancer Society (ASC), and US Preventive Services Task Force (USPSTF) all recommend screening starting at age 21, or 3 years after onset of sexual activity

Screening - When to end?

- ACOG – No set upper age limit
- ACS – 70, if have had 3 consecutive normal tests, and no abnormalities in the last 10 years
- USPSTF – 65, if they are not at high risk and have had recent normal smears

After hysterectomy

- May discontinue pap screening if done for non-malignant reasons and no CIN II/III in past
- If h/o CIN II/III and doesn't have 3 documented normals, must continue screening
- If h/o DES exposure, screening is indefinite
- If sub-total hysterectomy, follow above recommendations for age
- If hysterectomy done for CIN II/III, must do screening q 6 months x 3, then annual x 3

How Often to Screen?

- **ACOG** – annually for all women under age 30 regardless of method (conventional vs. liquid)
 - Over age 30 can space to every 2-3 years IF
 - No history of CIN II or III
 - Not immunocompromised
 - Had no DES exposure
 - Have had 3 consecutive negative screens

How Often (Cont)?

- **ASC** - Annual with conventional cytology, or every 2 years with liquid based cytology
 - **After age 30, may increase interval to every 2-3 years IF**
 - Had 3 consecutive negative screens
 - Not high risk
 - Not immunocompromised
- **USPSTF** - At least every 3 years in patients who have had 2 recent normal pap smears

Bethesda 2001

- Specimen type (conventional, liquid-based, etc)
- Specimen Adequacy
 - Satisfactory (describes presence or absence of endocervical/ TZ component and other quality indicators such as obscuring blood or inflammation)
 - Unsatisfactory (reason specified)
- General Categorization
 - Negative for intraepithelial lesion or malignancy
 - Epithelial Cell Abnormality
 - Other (endometrial cells in a woman over 40)

Bethesda 2001 - Negative for Intraepithelial lesion/malignancy

- Organisms—treat infection; some only if symptoms
 - *Trichomonas vaginalis*
 - Fungal organisms
 - Shift in flora suggestive of BV
 - Cellular changes c/w Herpes
 - *Actinomyces* spp.
- Other non-neoplastic findings (optional)
 - Reactive cellular changes
 - Glandular cells post hysterectomy
 - Atrophy

Absent Endocervical Component

or Blood/Inflammation

Obscuring

Expert task force has recommended that repeat cytology can be performed in 12 months. Should repeat in 6 months IF:

- \geq ASCUS pap without 3 consecutive normals
- H/O atypical glandular cells of unknown origin
- + Hi-risk HPV in the last 12 months
- Inability to visualize or sample the endocervical canal
- Immunosuppression
- Non-compliant patient

Bethesda 2001—Epithelial Cell Abnormalities, Squamous

- Atypical squamous cells
 - ASC-US (of undermined significance)
 - ASC-H (cannot exclude HSIL)
- Low grade squamous intraepithelial lesion (LSIL) – mild dysplasia/ CIN I
- High grade squamous intraepithelial lesion (HSIL) – moderate and severe dysplasia/ CIN II/III
- Squamous cell carcinoma

Bethesda 2001—Epithelial cell abnormalities, Glandular

- Atypical Glandular
 - Endocervical (NOS)
 - Endometrial (NOS)
 - Glandular (NOS)
- Atypical
 - Endocervical, favor neoplastic
 - Glandular, favor neoplastic
- Endocervical adenocarcinoma *in situ*
- Adenocarcinoma – endocervical, endometrial, extrauterine, NOS

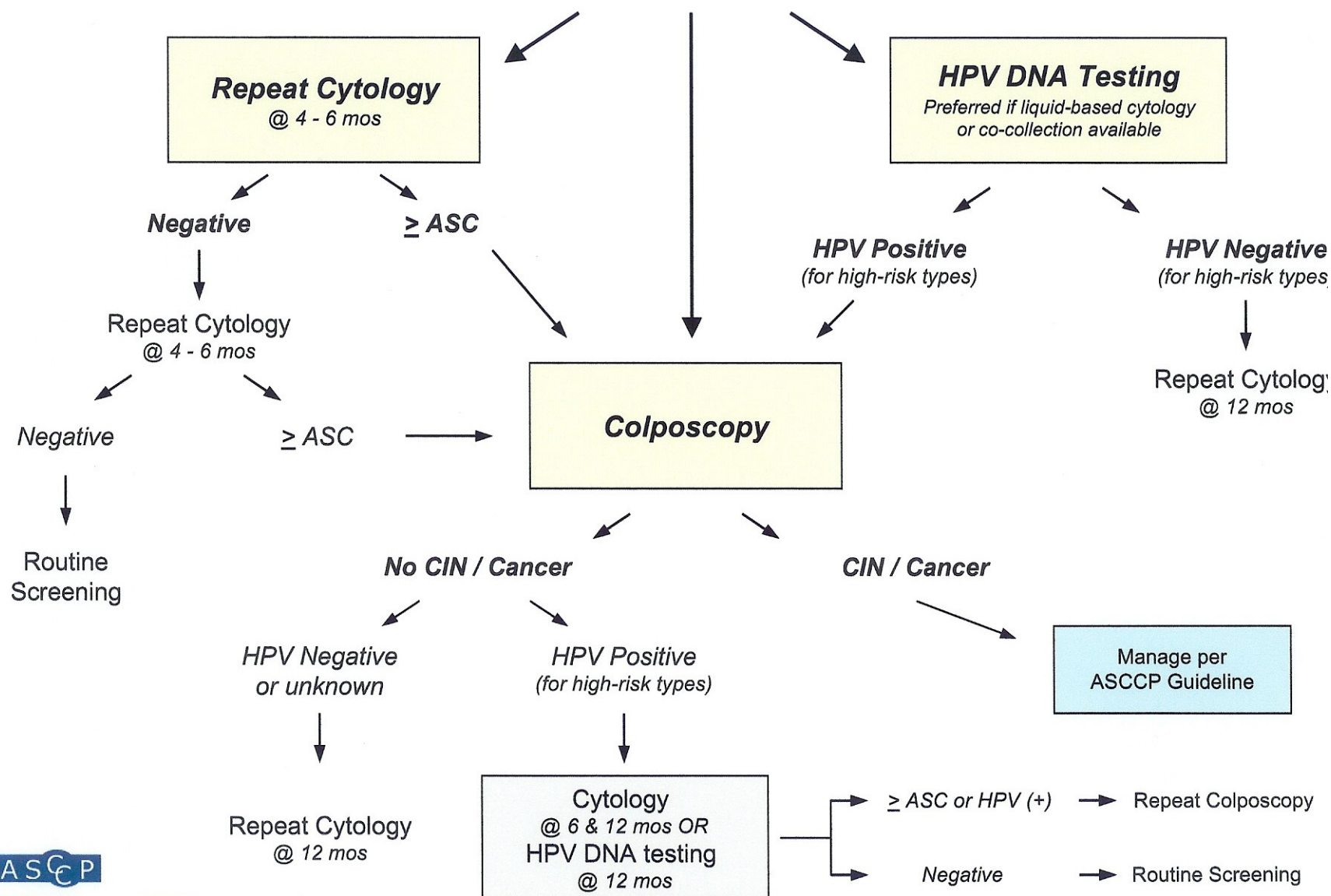
Management

- Endometrial Cells noted on pap(>40 yoa)
 - 16% can have significant pathology
 - Do EMB if BTB or if risk-factors for endometrial hyperplasia:
 - postmenopausal
 - tamoxifen use
 - chronic anovulation
 - obesity
 - estrogen therapy
 - prior endometrial hyperplasia

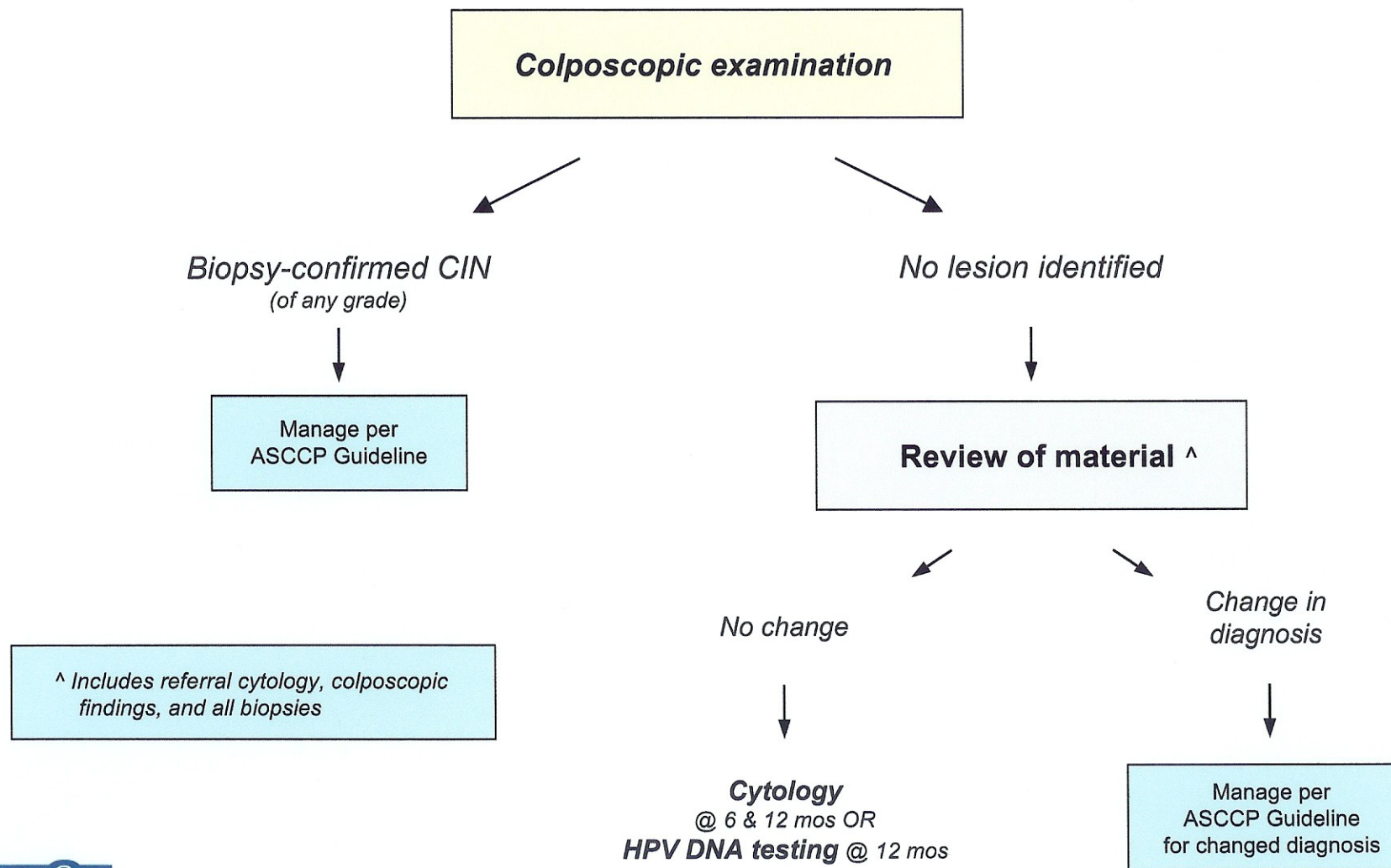
Management-cont'

- Hyperkeratosis
 - No need for colposcopy
 - Repeat pap in 6 or 12 months based on risk-factors
- Pregnancy
 - ASCUS/+HPV, LGSIL and HGSIL should receive colpo WITHOUT ECC
 - Colpo biopsy recommended for suspected CIN II or greater (no need to biopsy suspected CIN I)

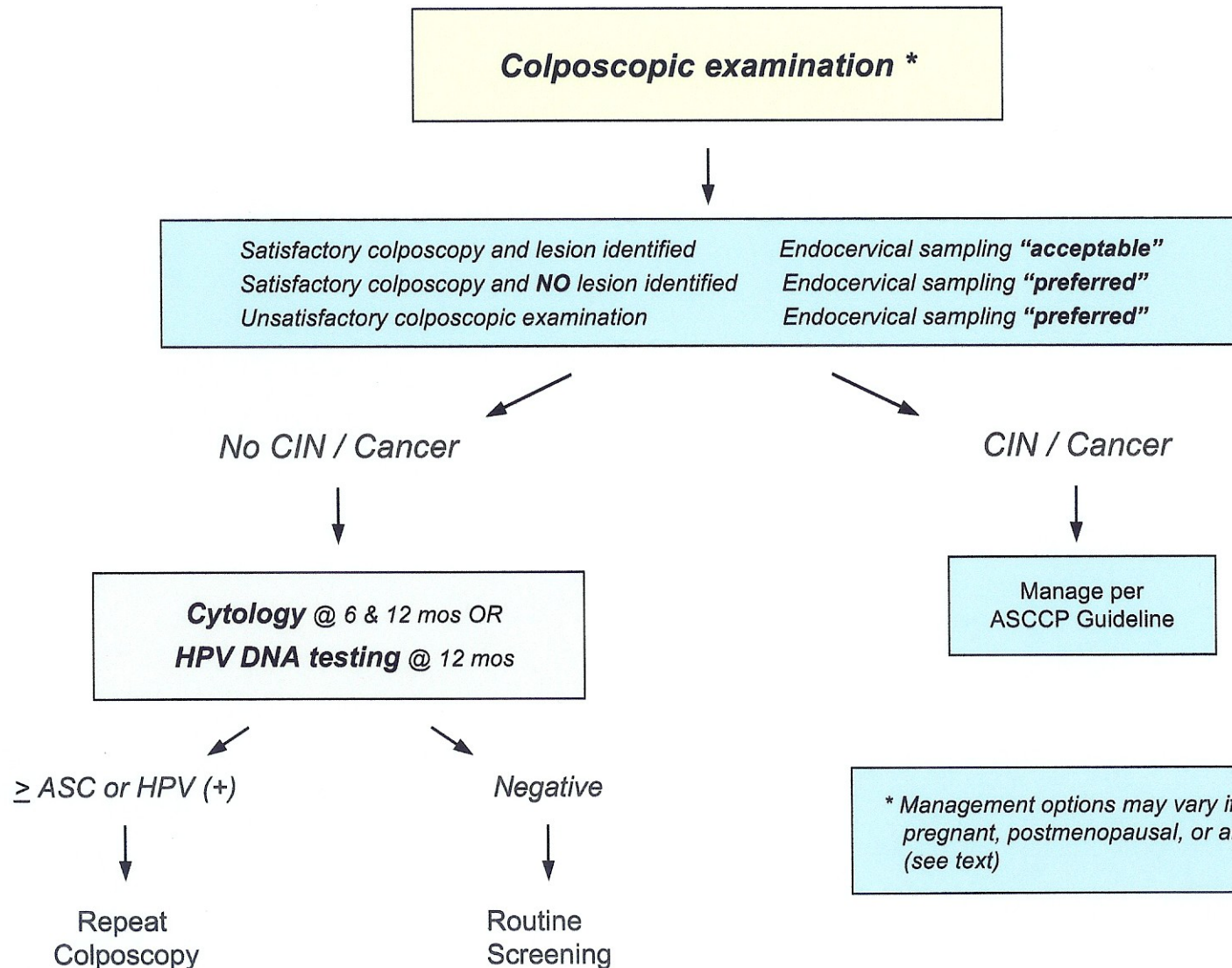
Management of Women with Atypical Squamous Cells of Undetermined Significance (ASC-US)



Management of Women with Atypical Squamous Cells: Cannot Exclude High-grade SIL (ASC - H)

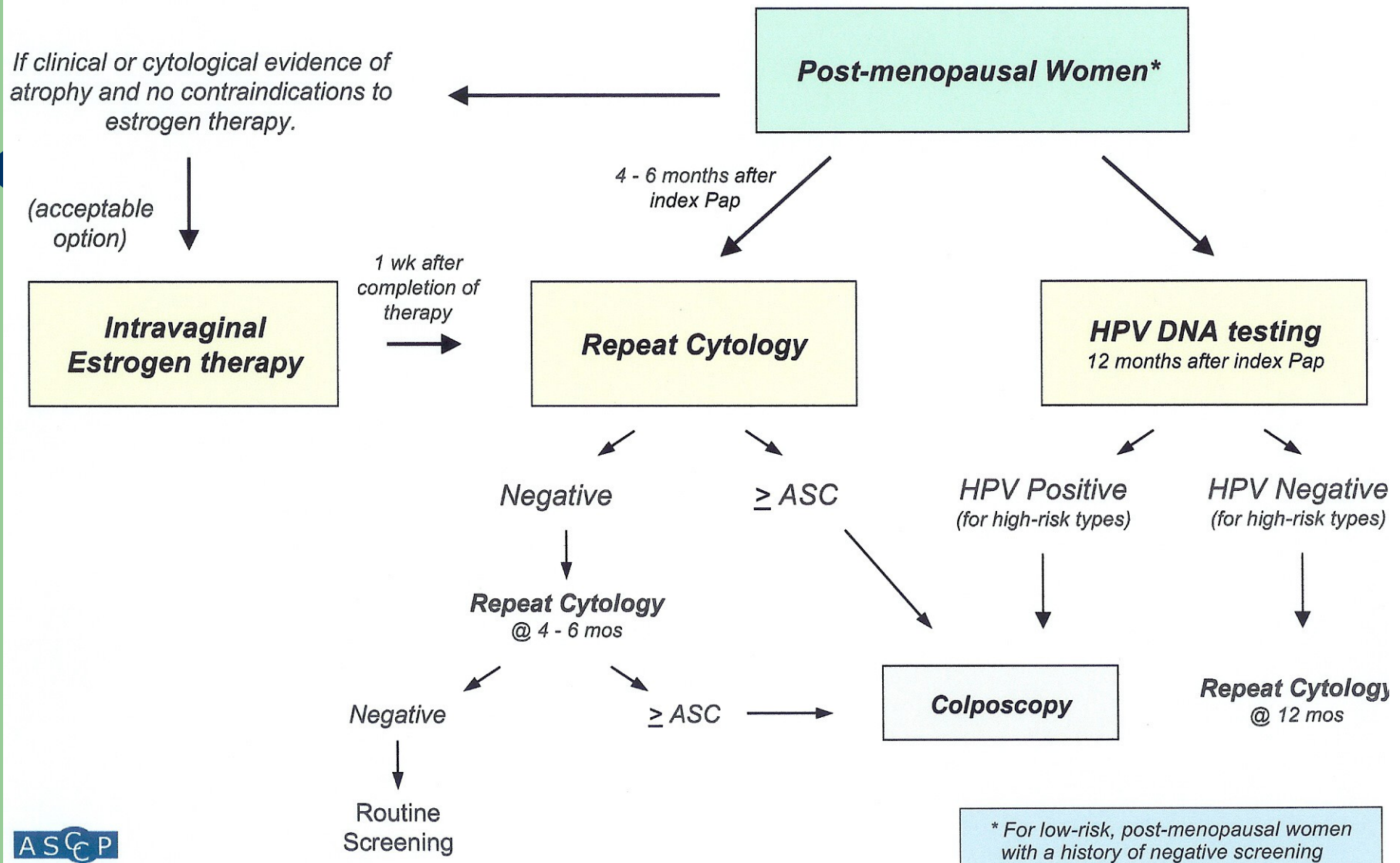


Management of Women with Low-grade Squamous Intraepithelial Lesions (LSIL) *



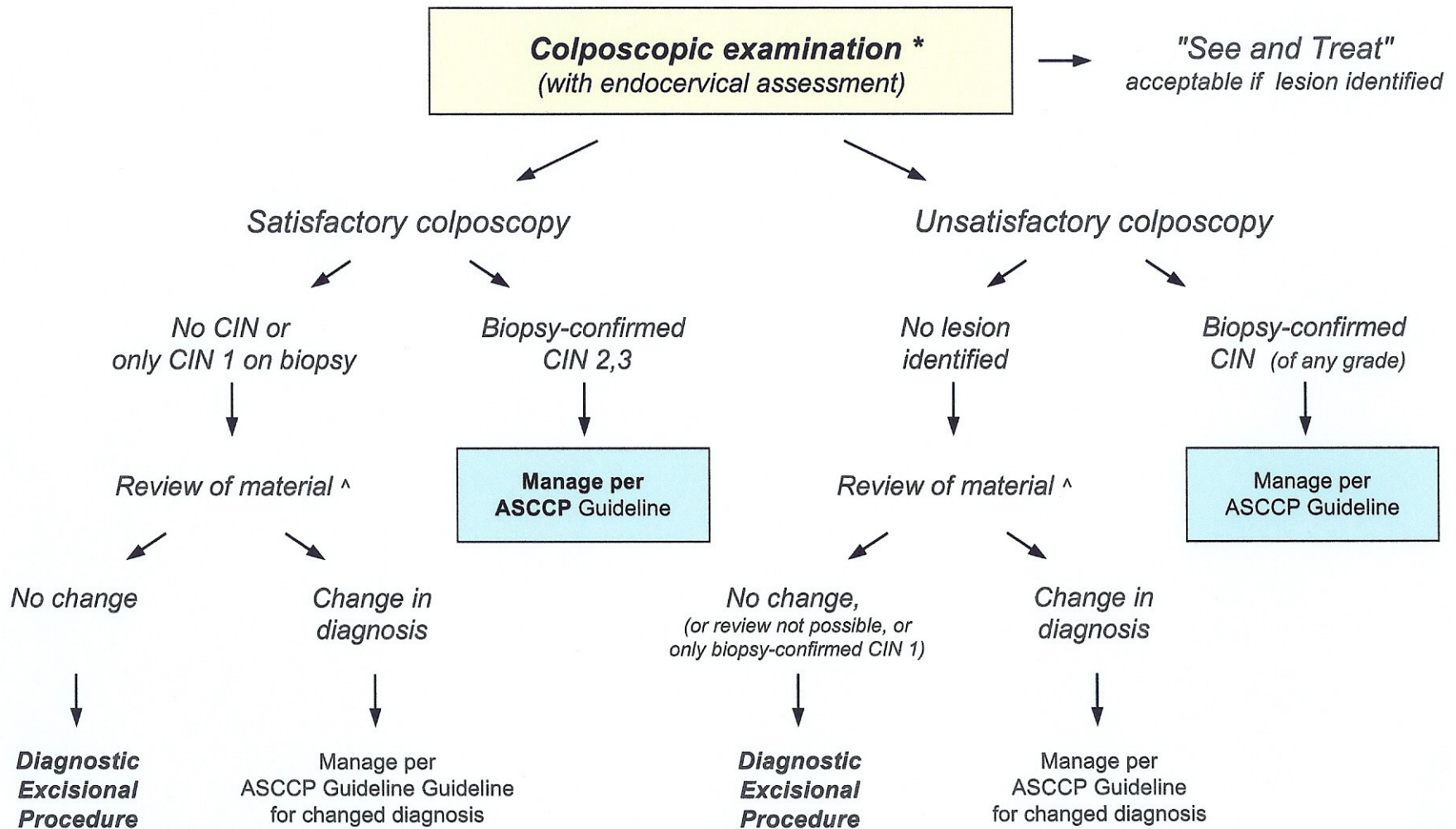
* Management options may vary if the woman is pregnant, postmenopausal, or an adolescent - (see text)

Management of Women with Low-grade Squamous Intraepithelial Lesions In Special Circumstances



* For low-risk, post-menopausal women with a history of negative screening

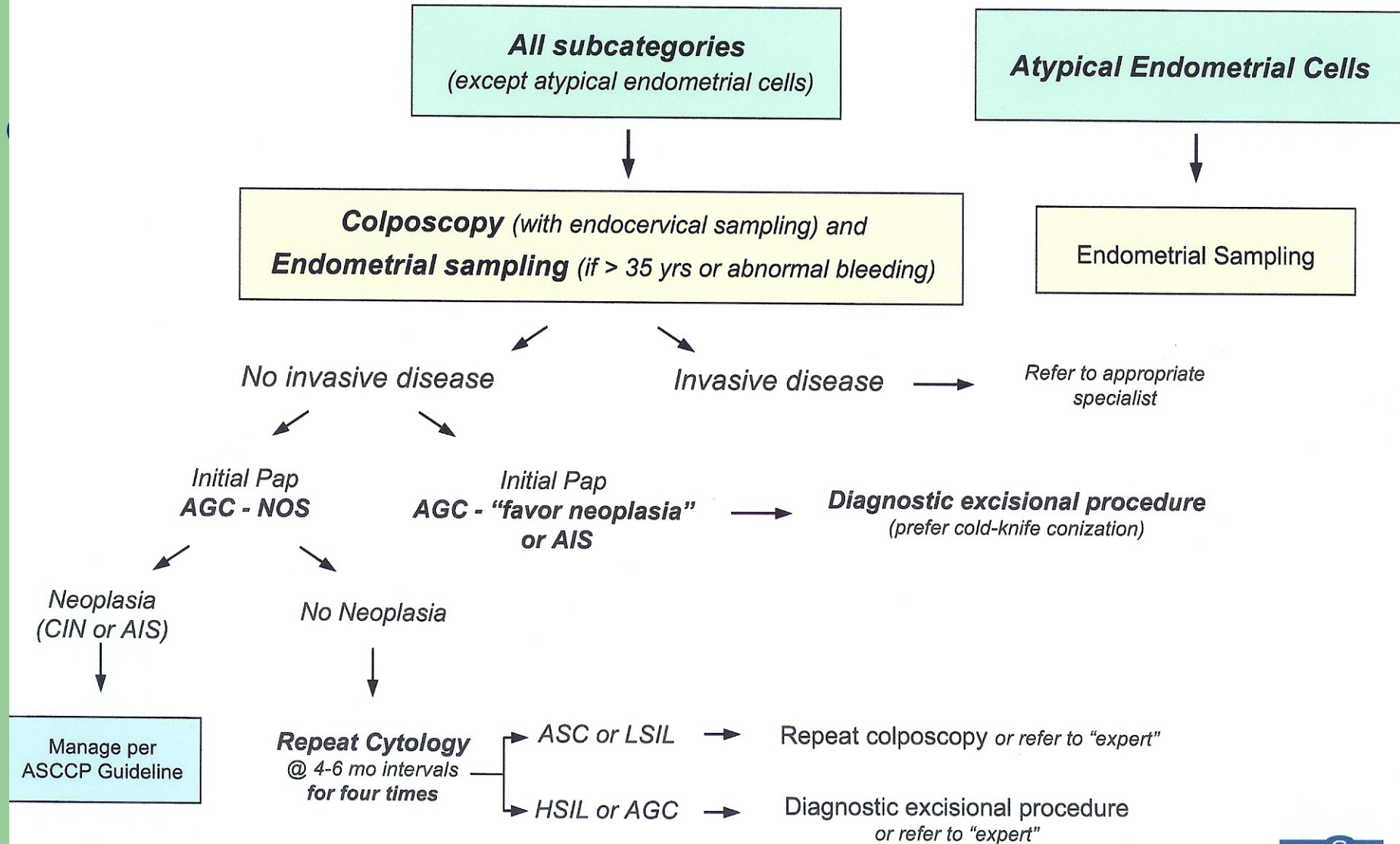
Management of Women with High-grade Squamous Intraepithelial Lesions (HSIL) *



^ Includes referral cytology, colposcopic findings, and all biopsies

* Management options may vary if the woman is pregnant, postmenopausal, or an adolescent

Management of Women with Atypical Glandular Cells (AGC)



Summary

- Pap smear testing – single most effective cancer screening test to date
- Begin screening 3 years after onset of sexual activity or at 21 years of age
- HPV typing can be used to triage ASCUS paps
- Persistence of HPV is key factor in developing high grade dysplasia/ICC
- Remember ASCCP clinical guidelines for management of cytological abnormalities

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